BOARD OF REGISTERED NURSING
Agenda Item Summary
Nursing Practice Committee

AGENDA ITEM: 11.1
DATE: April 3, 2009

ACTION REQUESTED: Request to place on BRN website: Link to California Society of Anesthesiology: Guidelines for Deep Sedation by Non-anesthesiologists

REQUESTED BY: Janette Wackerly, MBA, RN
Nursing Education Consultant

BACKGROUND:
The Boards NEC staff is asked frequently to respond to questions about RN scope of practice and levels of sedation.

The nursing practice committee requests the BRN website provide a link to California Society of Anesthesiology, CSA, Guidelines for Deep Sedation by Non-Anesthesiologists. The guidelines identify the practice role of the registered nurses in administering drugs for deep sedation supervised by the anesthesiologist or non-anesthesiologist MD. The RN is granted privileges following successful completion of a formal education and training program required to implement medication orders for sedative, analgesic or anesthetic drugs used for deep sedation. (§ Business and Professions Code, 2725 (2) and (4))

The guidelines identify supervised sedation professionals as registered nurses who are granted privileges to administer sedative, analgesic or anesthetic drugs under supervision of an anesthesiologist or a non-anesthesiologist sedation practitioner, MD; and to monitor patients during deep sedation. The RN may only administer sedative, analgesic, or anesthetic medication on the order of an anesthesiologist or non-anesthesiologist sedation practitioner MD. The guidelines require RNs to complete formal training program in 1) the safe administration of sedative, analgesic, or anesthetic drugs used to establish a level of deep sedation, 2) use of reversal agents for opioids and benzodiazepines, 3) monitoring of patients' physiologic parameters during sedation, and 4) recognition of abnormalities in monitored variables that require interventions by the anesthesiologist or non-anesthesiologist sedation practitioner MD. Other trainings are included on page 7 of 9 in the attached CSA Guidelines for Deep Sedation by Non-Anesthesiolgists.

In May 2008 the California Society of Anesthesiologists, CSA, House of Delegates developed for publication CSA Guidelines for Deep Sedation by Non-Anesthesiologists. The CSA Guidelines for Deep Sedation by Non-Anesthesiologist provides clinical guidance for any system or set of practices, used either by its members or the members of other disciplines that would like to review suggested credentialing and oversight of all sedation administration in their facility.

In January 2005 the American Society of Anesthesiologists, ASA, provided the Joint Commission

Compliance Tool Kit, Sedation Model Policy, sedation and analgesia (formerly known as conscious sedation) for diagnostic; therapeutic, and invasive procedures. The purpose was to establish appropriate standards for administration and monitoring sedation and analgesia. The Sedation Model Policy provides the framework of hospitals to set policy for sedation and analgesia throughout the hospital in accord with the policy; American Society of Anesthesiology, ASA

Sedation has been recognized as occurring on a continuum. In January 2001 The Joint Commission set standards for sedation and anesthesia care that apply when patients receive, in any setting, for any purpose, moderate or deep sedation as well as general spinal, or other major regional sedation. Joint Commission Standard for Sedation and Anesthetic Care defines four levels of anesthesia: * Minimal sedation; *Moderate sedation/analgesia (formerly "conscious sedation), * Deep Sedation/analgesia; and General anesthesia.

Website: http://www.csahq.org/pdf/news/DeepSedation_06_08_final.pdf

NEXT STEP:	Place on Board Agenda
FINANCIAL IMPLICATION(S), IF ANY:	None
PERSON TO CONTACT:	Janette Wackerly, MBA, RN Nursing Education Consultant (916) 574-7686

CSA Guidelines for Deep Sedation by Non-Anesthesiologists

By Mark A. Singleton, M.D.,
ASA Alternate Director for California

In 2004, the CSA successfully introduced a resolution to the ASA House of Delegates, which instructed the ASA to "develop credentialing guidelines specifying the qualifications of individuals who are granted privileges to administer anesthetic drugs to establish a level of moderate or deep sedation." This issue originated from a CSA task force chaired by CSA Past President Edgar D. Canada, M.D., which focused on the appropriate use of propofol. Various committees of the ASA have examined and attempted to resolve the question of what qualifications practitioners must have to be properly allowed to administer "Deep Sedation." This subject received lengthy and somewhat contentious debate during the proceedings of the 2006 ASA House of Delegates meeting. As a result, the following resolution was passed by the House, and became official policy of ASA:

Statement on Granting Privileges to Nonanesthesiologist Practitioners for Personally Administering Deep Sedation or Supervising Deep Sedation by Individuals Who Are Not Anesthesia Professionals
(Approved by the ASA House of Delegates on October 18, 2006)

> **Because of the significant risk that patients who receive deep sedation may enter a state of general anesthesia, privileges to administer deep sedation should be granted only to practitioners who are qualified to administer general anesthesia or to appropriately supervised anesthesia professionals.**

Over the past year, the CSA Board of Directors has discussed whether this statement adequately addresses the commonly reported observation that deep sedation is being performed in a number of clinical settings by nonanesthesia professionals. From these discussions emerged a reconsideration of the issue and eventually the adoption by the CSA House of Delegates, at our Annual Meeting last June, of the CSA Guidelines for Deep Sedation by Non-Anesthesiologists. It was strongly felt that these CSA Guidelines complement, rather than contradict, the ASA Statement. Instead of reproducing this

somewhat lengthy document here in the *Bulletin*, I urge all CSA members to view and download it at http://www.csahq.org/pdf/alerts/CSADeepSed_HOD_Version.pdf.

It is likely that the language of these Guidelines will be updated and refined from time to time in the future by the CSA and thus having it posted on our Web site will allow access to the most reliable source. In addition, thanks to the efforts of our Legislative and Practice Affairs Division Chair, Ken Pauker, M.D., this issue, and CSA's Guidelines, have received the attention of the Aesthesia Patient Safety Foundation and will be discussed at their fall Board of Directors meeting.

Many of us have experienced instances in our hospitals and facilities wherein we, as anesthesiologists, are asked to pass judgment on the appropriateness of sedation practices of nonanesthesiologists. It is clear that this is occurring with increasing frequency, especially in the pediatric demographic and for procedures involving nonsurgical or minimally invasive techniques. These guidelines are intended to assist us and our medical staffs in continuing to assure the highest standards of patient safety for which our specialty has become widely recognized.

Have You Changed your E-mail Address Lately?

Please send an e-mail with your new e-mail address or go online at the CSA Web Site, **www.csahq.org**, to update your profile if you wish to receive up-to-date information.

The monthly *Gasline* newsletter is now sent by e-mail only.

Are You Missing Monthly CSA *Gaslines* and Member Alerts?

If the answer is "yes," your spam guard may be the problem. We find some member spam guards do not allow CSA mail to pass through the protective e-mail filter. If that is the case, be sure to check e-mail posted to your spam file occasionally, or set the spam permission to allow CSA mail. The e-mail address from which *Gaslines* and Member Alerts are sent is **csa@csahq.org**.

CSA GUIDELINES FOR DEEP SEDATION BY NON-ANESTHESIOLOGISTS

The California Society of Anesthesiologists (CSA) is committed to the safe administration of anesthesia. Because of our concern, the CSA may provide clinical guidance for any system or set of practices, used either by its members or the members of other disciplines that would adversely affect the safety of anesthesia administration. California anesthesiologists, as members of medical staffs, are routinely asked, because of their knowledge and expertise to assume responsibility for credentialing and oversight of all sedation administered in their facilities. They therefore may be charged with or asked to advise about credentialing of non-anesthesiologists for deep sedation.

Deep sedation is a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

The CSA believes that in a stable, intubated, and ventilated patient, deep sedation may be completely appropriate. The delivery of clinical care is the shared responsibility of many practitioners, and we recognize that other critical care specialists are trained and skilled in managing the care of unconscious patients. The intent of this document is to suggest a framework to identify individuals who may qualify to administer or supervise the administration of deep sedation. Only physicians or dentists who are qualified by education, training and licensure to administer deep sedation should supervise the administration of deep sedation. When deep sedation is intended, there is a significant risk that patients may slip into a state of general anesthesia (from which they cannot be aroused by painful or repeated stimulation). Therefore, individuals requesting privileges to administer deep sedation must demonstrate their ability to (1) recognize that a patient has entered a state of general anesthesia and (2) maintain a patient's vital functions until the patient has been returned to an appropriate level of sedation. This capability of recognizing and rescuing patients from general anesthesia does not imply that the practitioner is qualified to intentionally administer general anesthesia.

These guidelines may be used by any facility—hospital, ambulatory care center or physician's or dentist's office—in which an internal or external credentialing process is required for administration of sedative, analgesic or anesthetic drugs to establish a level of deep sedation, and are intended to improve patient safety in recognition of the current practice in California.

DEFINITIONS

Anesthesia Professional: An anesthesiologist, anesthesiologist assistant (AA), or certified registered nurse anesthetist (CRNA).

Non-anesthesiologist Sedation Practitioner: A licensed physician (allopathic or osteopathic) or dentist who has not completed postgraduate training in anesthesiology but is

specifically trained to administer personally or to supervise the administration of deep sedation.

Supervised Sedation Professional: A licensed registered nurse, advanced practice nurse or physician assistant who is trained to administer medications and monitor patients during deep sedation under the direct supervision of an anesthesiologist or a non-anesthesiologist sedation practitioner**.**

Credentialing: The process of documenting and reviewing a practitioner's credentials.

Credentials: The professional qualifications of a practitioner including education, training, experience and performance.

Privileges: The clinical activities within a health care organization that a practitioner is permitted to perform based on the practitioner's credentials.

Guidelines: A set of recommended practices that should be considered but permit discretion by the user as to whether they should be applied under any particular set of circumstances.

*** Moderate Sedation:** "Moderate Sedation/Analgesia ("Conscious Sedation") is a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained."

* **Deep Sedation:** "Deep Sedation/Analgesia is a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained."

*** Rescue:** "Rescue of a patient from a deeper level of sedation than intended is an intervention by a practitioner proficient in airway management and advanced life support. The qualified practitioner corrects adverse physiologic consequences of the deeper-than intended level of sedation (such as hypoventilation, hypoxia and hypotension) and returns the patient to the originally intended level of sedation."

*** General Anesthesia:** "General Anesthesia is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired."

*The definitions marked with an asterisk are extracted verbatim from "*Continuum of Depth of Sedation – Definition of General Anesthesia and Levels of Sedation/Analgesia" (Approved by ASA House of Delegates on October 13, 1999, and amended on October 27, 2004).*

GUIDELINES

The following guidelines are designed to assist health care organizations develop a program for the delineation of clinical privileges for practitioners who are not anesthesia professionals to administer sedative, analgesic or anesthetic drugs to establish a level of deep sedation. The guidelines are written to apply to every setting in which an internal or external

credentialing process is required for granting privileges to administer sedative, analgesic or anesthetic drugs to establish a level of deep sedation (e.g., hospital, freestanding procedure center, ambulatory surgery center, physician's or dentist's office, etc.). The guidelines are not intended nor should they be applied to the granting of privileges to administer general anesthesia.

The granting, reappraisal and revision of clinical privileges should be awarded on a time-limited basis in accordance with rules and regulations of the health care organization, its medical staff, organizations accrediting the health care organization and relevant local, state and federal governmental agencies.

I. NON-ANESTHESIOLOGIST SEDATION PRACTITIONERS

Only physicians or dentists who are qualified by education, training and licensure to administer deep sedation should supervise the administration of deep sedation. Because training is specialty-specific, deep sedation privileges should only be granted for procedures within the same specialty as the practitioner. Non-anesthesiologist sedation practitioners may directly supervise patient monitoring and the administration of sedative, analgesic or anesthetic medications by a supervised sedation professional. Alternatively, they may personally perform these functions, with the proviso that the individual monitoring the patient should be distinct from the individual performing the diagnostic or therapeutic procedure (see *ASA Guidelines for Sedation and Analgesia by Nonanesthesiologists*).

A. Education and Training

The non-anesthesiologist sedation practitioner who is to supervise or personally administer medications for deep sedation should have satisfactorily completed a formal training program in: (1) the safe administration of sedative, analgesic or anesthetic drugs used to establish a level of deep sedation, and (2) rescue of patients who exhibit adverse physiologic consequences of a deeper-than-intended level of sedation. This training may be a part of a recently completed residency or fellowship training (e.g., within two years), or may be a separate educational program. A knowledge-based test may be used to verify the practitioner's understanding of these concepts. The following subject areas should be included:

1. Contents of the following ASA documents that should be understood by practitioners who administer sedative, analgesic or anesthetic drugs to establish a level of deep sedation:

    - *Practice Guidelines for Sedation and Analgesia by Non-anesthesiologists*
    - *Continuum of Depth of Sedation – Definition of General Anesthesia and Levels of Sedation/Analgesia*
    - *Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures* (Approved by ASA House of Delegates on October 21, 1998, and effective January 1, 1999)

2. Appropriate methods for obtaining informed consent through pre-procedure counseling of patients regarding risks, benefits and alternatives to the administration of sedative, analgesic or anesthetic drugs to establish a level of deep sedation.

3. Skills for obtaining the patient's medical history and performing a physical examination to assess risks and co-morbidities, including assessment of the airway for anatomic and mobility characteristics suggestive of potentially difficult airway

management. The non-anesthesiologist sedation practitioner should be able to recognize those patients whose medical condition suggests that sedation should be provided by an anesthesia professional, such as morbidly obese patients or patients with obstructive sleep apnea or non-fasting patients or those with delayed gastric emptying.

4. Assessment of the patient's risk for aspiration of gastric contents as described in the *ASA Practice Guidelines for Preoperative Fasting*: "In urgent, emergent or other situations where gastric emptying is impaired, the potential for pulmonary aspiration of gastric contents must be considered in determining (1) the target level of sedation, (2) whether the procedure should be delayed or (3) whether the trachea should be protected by intubation."

5. The pharmacology of (1) all sedative, analgesic or anesthetic drugs the practitioner requests privileges to administer to establish a level of deep sedation, (2) pharmacological antagonists to the sedative, analgesic or anesthetic drugs and (3) vasoactive drugs and antiarrhythmics.

6. The benefits and risks of supplemental oxygen.

7. Recognition of adequacy of ventilatory function: This should include experience with patients whose ventilatory drive is depressed by sedative, analgesic or anesthetic drugs as well as patients whose airways become obstructed during sedation. Non-anesthesiologist practitioners should have experience managing patients during deep sedation, and understanding of the clinical manifestations of general anesthesia so that they can ascertain when a patient has entered a state of general anesthesia and rescue the patient appropriately.

8. Proficiency in advanced airway management: This training should include appropriately supervised experience in managing the airways of patients during general anesthesia. This may be supplemented using a high-fidelity patient simulator. The nonanesthesiologist practitioner must demonstrate the ability to reliably perform the following in anesthetized patients: (1) bag-valve-mask ventilation, (2) insertion and use of oro- and nasopharyngeal airways, (3) insertion and ventilation through a laryngeal mask airway, and (4) direct laryngoscopy and endotracheal intubation.

9. Monitoring of physiologic variables, including the following:
   a. Blood pressure
   b. Respiratory rate
   c. Oxygen saturation by pulse oximetry
   d. Capnographic monitoring. The non-anesthesiologist practitioner shall be familiar with the use and interpretation of capnographic waveforms to determine the adequacy of ventilation during deep sedation
   e. Electrocardiographic monitoring. Education in electrocardiographic (EKG) monitoring should include instruction in the most common dysrhythmias seen during sedation and anesthesia, their causes and their potential clinical implications (e.g., hypercapnia), as well as electrocardiographic signs of cardiac ischemia.
   f. Depth of sedation. The depth of sedation should be based on the ASA definitions of "deep sedation" and "general anesthesia." (See above).

10. The importance of continuous use of appropriately set audible alarms on physiologic monitoring equipment.

11. Documenting the drugs administered, the patient's physiologic condition and the depth of sedation at five-minute intervals throughout the period of sedation and analgesia, using a graphical, tabular or automated record which documents all the monitored parameters including capnographic monitoring.

12. The importance of monitoring the patient through the recovery period and the inclusion of specific discharge criteria for the patient receiving sedation.

13. Regardless of the availability of a "code team" or the equivalent, the non-anesthesiologist practitioner should have advanced life support skills such as those required for American Heart Association certification in Advanced Cardiac Life Support (ACLS). When granting privileges to administer deep sedation to pediatric patients, the non-anesthesiologist practitioner should have advanced life support skills such as those required for certification in Pediatric Advanced Life Support (PALS).

14. Required participation in a quality assurance system to track adverse outcomes and unusual events including respiratory arrests, use of reversal agents, prolonged sedation in recovery process, larger than expected medication doses, and occurrence of general anesthesia, with acceptance of input and/or oversight of anesthesiologists into this process.

When the practitioner is being granted privileges to administer sedative, analgesic or anesthetic drugs to pediatric patients to establish a level of deep sedation, the education and training requirements enumerated in #1-14 above should be specifically defined to qualify the practitioner to administer sedative, analgesic or anesthetic drugs to pediatric patients.

B. Licensure

1. The non-anesthesiologist sedation practitioner should have a current active, unrestricted medical, osteopathic, or dental license in the state, district or territory of practice. (Exception: practitioners employed by the federal government may have a current active license in any U.S. state, district or territory.)

2. The non-anesthesiologist sedation practitioner should have a current unrestricted Drug Enforcement Administration (DEA) registration (schedules II-V).

3. The credentialing process should require disclosure of any disciplinary action (final judgments) against any medical, osteopathic or dental license by any state, district or territory of practice and of any sanctions by any federal agency, including Medicare/Medicaid, in the last five years.

4. Before granting or renewing privileges to administer or supervise the administration of sedative, analgesic or anesthetic drugs to establish a level of deep sedation, the health care organization should search for any disciplinary action recorded in the National Practitioner Data Bank (NPDB) and take appropriate action regarding any Adverse Action Reports.

C. Practice Pattern

1. Before granting initial privileges to administer or supervise administration of sedative, analgesic or anesthetic drugs to establish a level of deep sedation, a process should be developed to evaluate the practitioner's performance. For recent graduates (e.g., <u>within two years</u>), this may be accomplished through letters

of recommendation from directors of residency or fellowship training programs which include deep sedation as part of the curriculum. For those who have been in practice since completion of their training, this may be accomplished through communication with department heads or supervisors at the institution where the individual holds privileges to administer deep sedation. Alternatively, the non-anesthesiologist sedation practitioner could be proctored or supervised by a physician or dentist who is currently privileged to administer sedative, analgesic or anesthetic agents to provide deep sedation. The facility should establish an appropriate number of procedures to be supervised.

2. Before granting ongoing privileges to administer or supervise administration of sedative, analgesic or anesthetic drugs to establish a level of deep sedation, a process should be developed to re-evaluate the practitioner's performance at regular intervals. For example, the practitioner's performance could be reviewed by an anesthesiologist or a non-anesthesiologist sedation practitioner who is currently privileged to administer sedative, analgesic or anesthetic agents to provide deep sedation. The facility should establish an appropriate number of procedures that will be reviewed.

D. Performance Improvement

Credentialing in the administration of sedative, analgesic or anesthetic drugs to establish a level of deep sedation should require active participation in an ongoing process that evaluates the practitioner's clinical performance and patient care outcomes through a formal program of continuous performance improvement.

1. The organization in which the practitioner practices should conduct peer review of its clinicians.

2. The performance improvement process should assess up-to-date knowledge as well as ongoing competence in the skills outlined in the educational and training requirements described above.

3. The performance improvement process should verify current airway management proficiency, including the ability to manage patients' airways during appropriately supervised general anesthesia using bag/mask ventilation, laryngeal mask airway and endotracheal intubation.

4. The performance improvement process should monitor and evaluate patient outcomes and adverse or unusual events.

5. The performance improvement process should have input and/or oversight of the department of anesthesiology.

II. SUPERVISED SEDATION PROFESSIONALS

A. Education and Training

The supervised sedation professional who is granted privileges to administer sedative, analgesic or anesthetic drugs under supervision of an anesthesiologist or a non-anesthesiologist sedation practitioner and to monitor patients during deep sedation can be a registered nurse who has graduated from a qualified school of nursing or a physician assistant who has graduated from an accredited physician assistant program. They may only administer sedative, analgesic or anesthetic medications on the order of an anesthesiologist or nonanesthesiologist sedation practitioner. They should have satisfactorily completed a

formal training program in 1) the safe administration of sedative, analgesic or anesthetic drugs used to establish a level of deep sedation, 2) use of reversal agents for opioids and benzodiazepines, 3) monitoring of patients' physiologic parameters during sedation, and 4) recognition of abnormalities in monitored variables that require intervention by the anesthesiologist or nonanesthesiologist sedation practitioner. Training should include the following:

1. Contents of the following ASA documents:

   - *Practice Guidelines for Sedation and Analgesia by Non-anesthesiologists*
   - *Continuum of Depth of Sedation – Definition of General Anesthesia and Levels of Sedation/Analgesia*
   - *Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures*

2. The pharmacology of (1) all sedative, analgesic or anesthetic drugs the practitioner requests privileges to administer to establish a level of deep sedation, and (2) pharmacological antagonists to the sedative, analgesic or anesthetic drugs.

3. The benefits and risks of supplemental oxygen.

4. Recognition of adequacy of ventilatory function: This should include experience with patients whose ventilatory drive is depressed by sedative, analgesic or anesthetic drugs as well as patients whose airways become obstructed during sedation.

5. Demonstrated proficiency in positive pressure ventilation with a bag-valve-mask system: This training should include appropriately supervised experience in ventilating patients during general anesthesia.

6. Monitoring and recognizing abnormalities of physiologic variables, including the following:
   a. Blood pressure
   b. Respiratory rate
   c. Oxygen saturation by pulse oximetry
   d. Capnographic monitoring. The health professional should be familiar with the use and interpretation of capnographic waveforms to determine the adequacy of ventilation during deep sedation
   e. Electrocardiographic monitoring. Education in electrocardiographic (EKG) monitoring should include instruction in the most common dysrhythmias seen during sedation and anesthesia, their causes and their potential clinical implications (e.g., hypercapnia), as well as electrocardiographic signs of cardiac ischemia.
   f. Depth of sedation. The depth of sedation should be based on the ASA definitions of "deep sedation" and "general anesthesia." (See above)

7. The importance of continuous use of appropriately set audible alarms on all physiologic monitors.

8. Documenting the drugs administered, the patient's physiologic condition and the depth of sedation at five-minute intervals throughout the period of sedation and analgesia, using a graphical, tabular or automated record which documents all the monitored parameters including capnographic monitoring.

9. Regardless of the availability of a "code team" or the equivalent, the supervised sedation professional should have advanced life support skills such as those required for American Heart Association certification in Advanced Cardiac Life Support (ACLS). When granting privileges to administer deep sedation to pediatric patients, the supervised sedation professional should have advanced life support skills such as those required for certification in Pediatric Advanced Life Support (PALS).

When the practitioner is being granted privileges to administer sedative, analgesic or anesthetic drugs to pediatric patients to establish a level of deep sedation, the education and training requirements enumerated in #1-14 above should be specifically defined to qualify the practitioner to administer sedative, analgesic or anesthetic drugs to pediatric patients.

B. Licensure

1. The supervised sedation professional should have a current active nursing license or physician assistant license or certification, in the U.S. state, district or territory of practice. (Exception: practitioners employed by the federal government may have a current active license in any U.S. state, district or territory.)

2. Before granting or renewing privileges for a supervised sedation professional to administer sedative, analgesic or anesthetic drugs and to monitor patients during deep sedation, the health care organization should search for any disciplinary action recorded in the National Practitioner Data Bank (NPDB) and take appropriate action regarding any Adverse Action Reports.

C. Practice Pattern

1. Before granting ongoing privileges to administer sedative, analgesic or anesthetic drugs to establish a level of deep sedation, a process should be developed to re-evaluate the supervised sedation professional's performance. The facility should establish performance criteria and an appropriate number of procedures to be reviewed.

D. Performance Improvement

Credentialing of supervised sedation professionals in the administration of sedative, analgesic or anesthetic drugs and monitoring patients during deep sedation should require active participation in an ongoing process that evaluates the health care professional's clinical performance and patient care outcomes through a formal program of continuous performance improvement.

1. The organization in which the practitioner practices should conduct peer review of its supervised sedation professionals.

2. The performance improvement process should assess up-to-date knowledge as well as ongoing competence in the skills outlined in the educational and training requirements described above.

REFERENCES

ASA has produced many documents over the years related to the topic addressed by these guidelines, among them the following (in alphabetical order):

AANA-ASA Joint Statement Regarding Propofol Administration (April 14, 2004)

Continuum of Depth of Sedation – Definition of General Anesthesia and Levels of Sedation/Analgesia (Approved by ASA House of Delegates on October 13, 1999, and last amended on October 27, 2004).
Guidelines for Ambulatory Anesthesia and Surgery (Approved by ASA House of Delegates on October 11, 1973, and last affirmed on October 15, 2003)

Guidelines for Delineation of Clinical Privileges in Anesthesiology (Approved by ASA House of Delegates on October 15, 1975, and last amended on October 15, 2003) *Guidelines for Office-Based Anesthesia and Surgery* (Approved by ASA House of Delegates on October 13, 1999, and last affirmed on October 27, 2004)

Outcome Indicators for Office-Based and Ambulatory Surgery (ASA Committee on Ambulatory Surgical Care and Task Force on Office-Based Anesthesia, April 2003)

Practice Guidelines for Sedation and Analgesia by Nonanesthesiologists (Approved by ASA House of Delegates on October 25, 1995, and last amended on October 17, 2001)

Statement on Qualifications of Anesthesia Providers in the Office-Based Setting (Approved by ASA House of Delegates on October 13, 1999, and last affirmed on October 27, 2004)

Statement on Safe Use of Propofol (Approved by ASA House of Delegates on October 27, 2004)

Report 614-1.3 to the 2006 ASA House of Delegates — Guidelines for Granting Privileges to Nonanesthesiologist Practitioners for Personally Administering Deep Sedation or Supervising Deep Sedation by Individuals Who are not Anesthesia Professionals (Not adopted by the ASA HOD, October 2006

In addition the following reference may be considered:

American Academy of Pediatrics, American Academy of Pediatric Dentistry, Cote CJ, Wilson S, and the Workgroup on Sedation. Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures: An Update. *Pediatrics* 2006;118:2587-2602.

BOARD OF REGISTERED NURSING
Agenda Item Summary
Nursing Practice Committee

AGENDA ITEM: 11.2
DATE: April 3, 2009

ACTION REQUESTED: Request to place on BRN website: Link to American College of Physicians: Nurse Practitioners in Primary Care

REQUESTED BY: Janette Wackerly, MBA, RN
Nursing Education Consultant

BACKGROUND:
A discussion of the American College of Physicians Policy Monograph; discussion of anticipated and actual shortage of primary care physicians that has led policy makers to consider the role of nurse practitioners (NPs) in improving access to primary health care services. The document states that NPs and physicians have common goals of providing high quality, patient centered care and improving the health status of those they serve. The Committee reviewed the seven, policy statements:

1. Physicians and NPs complete training with different levels of knowledge, skill and abilities that are not equivalent and are complementary.
2. Collaboration is identified as ongoing interdisciplinary communication regarding care of individuals and populations of patients in order to promote quality and cost effective care.
3. Licensing and certification exams should be developed by the discipline of nursing based on advanced training standards in advanced practice nursing programs. ACP opposes use of Step 3 of US Medical Licensing Examination (NBME) to Doctorate in Nursing Practice, DNP.
4. In the patient centered medical home model of care for patients best served by multidisciplinary team where the clinical team is lead by a MD. There is intended evaluation of physician lead team but possible also to test NP lead practice where NPs have independent practice authority.
5. ACP advocates for research efforts to identify and disseminate effective models of collaboration, referral, co-management of patients between and among NPs and physicians.
6. Opportunities for professional multidisciplinary training and team development should be incorporated into education and training of all health professionals
7. Workforce policies should ensure adequate supplies of primary care physicians and nurse practitioners to improve access to quality care and to avert anticipated shortage of primary care providers.

Website: http://www.acponline.org/advocacy/where_we_stand/policy/np_pc.pdf

NEXT STEP: Place on Board Agenda

FINANCIAL IMPLICATION(S), IF ANY: None

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ACP

American College of Physicians

INTERNAL MEDICINE | *Doctors for Adults*

Nurse Practitioners in Primary Care

American College of Physicians

Policy Monograph

2009

Nurse Practitioners in Primary Care

A Policy Monograph of the American College of Physicians

This paper was written by Jack Ginsburg, Director, Policy Analysis & Research; Tia Taylor, MPH, Policy Analyst; and Michael S. Barr, MD, MBA, Vice President, Practice Advocacy & Improvement. It was developed for the Health and Public Policy Committee of the American College of Physicians: J. Fred Ralston, MD, FACP, Chair; David A. Fleming, MD, FACP, Vice Chair; David L. Bronson, MD, FACP; Charles Cutler, MD, FACP; Yul Ejnes, MD, FACP, MSC Chair; Robert Gluckman, MD, FACP; Mark Liebow, MD, FACP; Kenneth Musana, MBchB, FACP; Mark E. Mayer, MD, FACP; Mark W. Purtle, MD, FACP; P. Preston Reynolds, MD, FACP; Lavanya Viswanathan, MS, Student; Kevin B. Weiss, MD, MPH, FACP; and Baligh Yehia, MD, Associate. It was approved by the Board of Regents on 25 January 2009.

How to cite this paper:

American College of Physicians. Nurse Practitioners in Primary Care. Philadelphia: American College of Physicians; 2009: Policy Monograph. (Available from American College of Physicians, 190 N. Independence Mall West, Philadelphia, PA 19106.)

For questions about the content of this Position Paper, please contact ACP, Division of Governmental Affairs and Public Policy, Suite 700, 25 Massachusetts Avenue NW, Washington, DC 20001-7401; telephone 202-261-4500. To order copies of this Position Paper, contact ACP Customer Service at 800-523-1546, extension 2600, or 215-351-2600.

Executive Summary

Anticipated and actual shortages of primary care physicians have led policymakers to consider the roles of nurse practitioners (NPs) in improving access to primary health care services. Over the past 20 years, an increase in the numbers of NPs, enactment of state laws expanding the scope of practice, prescriptive authority and third-party reimbursement, and national efforts to improve health care access, have resulted in expanded roles for NPs in providing primary care services. Greater autonomy of NPs has been a point of contention between the medical and advanced practice nursing communities. Questions have been raised about the adequacy of NP training and certification, quality of patient outcomes, and perceived intentions to replace primary care physicians. There has also been much controversy concerning the Doctor of Nursing Practice (DNP) degree. While there are differences in the nature and extent of training of physicians and NPs and the scope of practice for NPs varies considerably from state to state, the College acknowledges that NPs are health care professionals with the capability to provide important and critical access to primary care.

The American College of Physicians recognizes that NPs and physicians have common goals of providing high-quality, patient-centered care and improving the health status of those they serve. In addition, physicians and NPs share concerns regarding appropriate reimbursement for services provided, especially related to care coordination, and the decline in the primary care workforce. Acknowledging the critical role NPs play in improving access to care, the College offers the following position statements on physicians, NPs, the DNP degree, primary care, and the patient-centered medical home.

Position 1: Physicians and nurse practitioners complete training with different levels of knowledge, skills, and abilities that while not equivalent, are complementary. As trained health care professionals, physicians and nurse practitioners share a commitment to providing high-quality care. However, physicians are often the most appropriate health care professional for many patients.

A. Whenever possible, the needs and preferences of every patient should be met by the health care professional with the most appropriate skills and training to provide the necessary care.

B. Patients with complex problems, multiple diagnoses, or difficult management challenges will typically be best served by physicians working with a team of health care professionals that may include nurse practitioners and other nonphysician clinicians.

C. Patients have the right to be informed of the credentials of the person providing their care to allow them to understand the background, orientation, and qualifications of the health care professionals providing their care and to better enable them to distinguish among different health care professionals.

D. The College recognizes the important role that nurse practitioners play in meeting the current and growing demand for primary care, especially in underserved areas.

E. The College advocates for research to develop effective systems of consultation between physicians and nurse practitioners as clinically indicated.

Position 2: Collaboration is defined as ongoing interdisciplinary communication regarding the care of individuals and populations of patients in order to promote quality and cost-effective care. Recognizing the importance of coordinated care to improving health outcomes, we offer the following principles on collaboration between physicians and nurse practitioners:

A. Effective interdisciplinary collaboration is critical to ensuring that all patients receive the highest possible quality of care.

B. Members of a health care team should understand their complementary roles in the delivery of care as defined through their respective professional practice acts.

C. Collaboration among physicians and nurse practitioners can occur during both face-to-face encounters and electronically through the use of technology, including telephone, e-mail, telehealth, and electronic health records.

D. Effective collaboration among nurse practitioners and physicians requires appropriate sharing of information and mutual acknowledgment of and respect for each professional's knowledge, skills, and contributions to the provision of care.

E. Payment systems should provide sufficient reimbursement for the coordination of care and collaboration between nurse practitioners and physicians.

Position 3: Licensing and certification exams for nurse practitioners should be developed by the discipline of nursing, based on standardized training involved in graduating from advanced practice nursing programs and scope of practice statutes and regulations. ACP therefore opposes use of Step 3 of the U.S. Medical Licensing Exam and certification by the National Board of Medical Examinters (NBME) for the DNP.

Position 4: In the patient-centered medical home (PCMH) model, care for patients is best served by a multidisciplinary team where the clinical team is led by a physician. However, given the call for testing different models of the PCMH, ACP believes that PCMH demonstration projects that include evaluation of physician-led PCMHs could also test the effectiveness of nurse practitioner-led PCMH practices in accord with existing state practice acts and consistent with the following:

A. Demonstration projects testing the effectiveness of NP-led PCMH practices should meet the same eligibility requirements as those for physician-led practices.

B. NP-led PCMH practices should be subject to the same recognition standards to participate in the demonstration project as physician-led practices.

C. NP-led PCMH practices should be subject to the same standards of evaluation as physician-led PCMH practices.

D. Patients who are selecting a PCMH as their source of regular care should be informed in advance if it is a physician-led or nurse practitioner-led practice and the credentials of the persons providing care within each practice.

E. All clinicians within the PCMH are operating within existing state practice acts.

F. Payments and evaluation metrics for both physician-led and nurse practitioner-led PCMH practices must take into account differences in the case mix of patients seen in the practice.

Position 5: ACP advocates for research efforts to identify and disseminate effective models of collaboration, referral, and co-management of patients between and among nurse practitioners and physicians.

Position 6: Opportunities for professional multidisciplinary training and team development should be incorporated into the education and training of all health professionals.

Position 7: Workforce policies should ensure adequate supplies of primary care physicians and nurse practitioners to improve access to quality care and to avert anticipated shortages of primary care clinicians for adults. Workforce policies should recognize that training more nurse practitioners does not eliminate the need nor substitute for increasing the numbers of general internists and family physicians trained to provide primary care.

Introduction

Nurse practitioners (NPs) are registered nurses who have completed specialized advanced nursing education and training (1). Over the past 20 years, an increase in the numbers of NPs, enactment of state laws expanding the scope of practice, prescriptive authority and third-party reimbursement, and national efforts to improve health care access have resulted in expanded roles for NPs in providing primary care services. However, greater autonomy of NPs has been a point of contention between the medical and advanced-practice nursing communities. Questions have been raised about the adequacy of NP training and certification, comparisons drawn by NPs to the care delivered by physicians, quality of patient outcomes, and perceived intentions to displace or replace primary care physicians.

The American College of Physicians recognizes that NPs and physicians have common goals of providing high-quality care, improving patient outcomes, and enhancing the health of the U.S. population. In addition, physicians and NPs share concerns regarding the continuing decline in the primary care workforce; the need to provide appropriate reimbursement for services, especially related to care coordination; and the absence, until recently, of new models to deliver primary care, such as the patient-centered medical home. A high-quality and efficient health care system requires effective multidisciplinary teams that collaborate to provide patient-centered care. The ACP hopes that this paper will strengthen the dialogue between the medical and NP communities to improve future health care delivery.

Overview

In the 1960s, an insufficient physician workforce was one of the factors that led to the development of nonphysician clinicians, primarily NPs and physician's assistants (PAs), to improve access to primary health care services (2,3,4). Other contributors to the rise of NPs were managed care and cost containment, and early efforts in interdisciplinary training (5). The role of NPs and their relationship to primary care physicians was originally envisioned as being collaborative and collegial, not a substitute for physicians (6). Over the past 20 years, several factors have led to increased reliance on NPs as providers of primary health care. An increase in the numbers of NPs, enactment of state laws expanding their allowable scope of practice, a national movement to improve health care access, the rise of retail health clinics, and increased efforts to contain health care costs has resulted in a shift in the provision of some primary care from physicians to NPs and to other nonphysician clinicians.

As the number of medical school graduates entering primary care dwindles, training programs for NPs continue to grow. In 1995, there were 44,200 NPs in the United States. By 2005, the number of practicing NPs in the U.S. had grown to 82,622, reflecting an average rate of increase of 9.44% per year (7). The American Academy of Nurse Practitioners reports that about 6,000 new NPs are prepared each year and estimates that there are as many as 125,000 practicing NPs, approximately one sixth of the health care workforce. About 85% of NPs train in primary care. As the largest group of nonphysician primary care providers, NPs conduct almost 600 million patient visits each year (8). Research has found that NPs are more likely than physicians to provide care to younger patients with few co-morbidities and see patients for acute minor illnesses (9,10,11). While NPs practice in various medical settings, they represent a significant proportion of providers of care for vulnerable populations. NPs have proven integral to improving access to care in rural communities (12).

Education & Certification

All NPs are registered nurses (RNs), and many have years of clinical nursing experience. There are three pathways for NP education: Master's level programs; post-Master's programs (for persons with a Master's degree in nursing); and the Doctor of Nursing Practice (13). However, most NPs (88%) graduate with a Master's degree (14).

NPs are principally trained in primary care, with special emphasis on such areas as adult health, pediatrics, family health, women's health, or gerontology. These primary care tracks account for 85% of NP graduates (15). The remaining NP students train in acute care, emergency care, and such subspecialty disciplines as oncology or neonatology (16).

The National Organization of Nurse Practitioner Faculties specifies the domains and core competencies for Nurse Practitioner Practice and for programs leading to the NP degree in the primary care specialty areas of adult health, family health, gerontological health, pediatric health, and women's health. These competencies include health promotion/health protection and disease prevention, management of patient illness, the nurse practitioner-patient relationship, the teaching-coaching function, professional role, assisting patients in managing and negotiating health care delivery systems, monitoring and ensuring quality health care practice, and having cultural and spiritual competence (17).

To improve the quality of NP education and to prepare NPs to meet increasingly complex health care demands, leaders of some nursing professional organizations support the Doctorate of Nursing Practice (DNP) as the terminal degree for advanced nursing practice. Currently, there are 83 DNP programs in the U.S. and the goal is to convert all programs for advanced practice nursing from Master's to DNP by 2015. Presently, most DNP programs are only open to current NPs with Master's degrees. Building on their previous training, the DNP with NP entry requires at least 30 credit hours, a 1-year full-time residency, and a final project. The DNP degree is not equivalent to the educational and training requirements for a physician's medical degree. A physician must complete 2 years of clinical rotations during the third and fourth year of medical school (3200 hours of general clinical education) and a minimum of 3 years of full-time clinical postgraduate residency training (minimum 7800 hours) in their specialty.

A growing number of institutions are offering the DNP for postbaccalaureate students, which is the path endorsed by the Association of American Colleges of Nursing. These postbaccalaureate programs combine the Master's and Doctorate programs and take approximately 3 years to complete on a full-time schedule. In the future, the professional nursing community expects the professional nursing community expects the DNP to be the entry level to advanced nursing practice (18,19,20).

Scope of Practice

Currently, NPs can practice independently (without any requirements for physician involvement) in 22 states and the District of Columbia. In all but 1 of the 28 states that require physician supervision or collaboration, the supervising physician need not be present during the provision of care. However, the nature of these collaborative agreements varies considerably throughout the states (21).

Prescriptive Authority

In 2006, Georgia became the last state to enact legislation allowing prescriptive authority for advanced practice nurses (22). However, the level of prescriptive authority varies by state. NPs can independently prescribe both controlled and noncontrolled substances in 14 states. At the other end of the spectrum, 3 states (Alabama, Florida, and Hawaii) authorize NPs to prescribe only noncontrolled substances with some degree of physician involvement or delegation. Most states allow NPs to prescribe both noncontrolled and controlled substances with some level of physician involvement. In recent years, there have been more states that have expanded prescriptive privileges for NPs than those that have restricted it. NPs in Kentucky may now prescribe controlled substances, and Nebraska, South Dakota, and Virginia recently extended NP prescriptive authority to include Schedule II controlled substances.

Third-Party Reimbursement

Medicare reimburses NPs at a rate of 85% of the physician fee schedule amount for services performed in collaboration with a physician as specified by state law. Medicare pays 100% of the physician fee schedule amount for services performed by an NP who is employed by a physician practice when certain conditions are met. The practice receives the full fee schedule amount when an NP provides services, referred to as "incident-to", to a patient after a physician in the same practice conducts the initial visit and devises a care plan related to that episode of care. Also, the physician must provide direct supervision, which Medicare defines as not necessarily being in the same exam room but in the same office suite and immediately available for consultation.

Medicaid reimburses nonphysicians in almost every state at rates varying from 50% to 100% of rates for physicians. In 2006, California enacted legislation allowing certified NPs to bill Medicaid (MediCal) and be reimbursed at 100% of the physician rate. However, if a patient is enrolled with a Medicaid managed care plan, the plan's policies and contracts determine who may be reimbursed for physician services.

In general, managed care plans only reimburse those providers admitted to the plan's provider panel. However, the **Medicaid Advanced Practice Nurses and Physician Assistants Access Act of 2009 (S. 63), introduced in the 111th Congress on January 6, 2009,** would remove language from the Balanced Budget Act of 1997 requiring states to determine whether they wished to recognize NPs, nurse midwives, and PAs as primary care providers in their Medicaid managed care primary care provider systems. Passage of the legislation would facilitate reimbursement of nonphysician clinicians as primary care providers in Medicaid managed care programs.

While federal law does not mandate private third-party reimbursement for NPs, 29 states require reimbursement for NP services (23).

Positions

Position 1: Physicians and nurse practitioners complete training with different levels of knowledge, skills, and abilities that while not equivalent, are complementary. As trained health care professionals, physicians and nurse practitioners share a commitment to providing high-quality care. However, physicians are often the most appropriate health care professional for many patients.

A. Whenever possible, the needs and preferences of every patient should be met by the health care professional with the most appropriate skills and training to provide the necessary care.

B. Patients with complex problems, multiple diagnoses, or difficult management challenges will typically be best served by physicians working with a team of health care professionals that may include nurse practitioners and other nonphysician clinicians.

C. Patients have the right to be informed of the credentials of the person providing their care to allow them to understand the background, orientation, and qualifications of the health care professionals providing their care and to better enable them to distinguish among different health care professionals.

D. The College recognizes the important role that nurse practitioners play in meeting the current and growing demand for primary care, especially in underserved areas.

E. The College advocates for research to develop effective systems of consultation between physicians and nurse practitioners as clinically indicated.

NPs play an essential role in the provision of primary care. Many physicians rely upon these professionals not only for assistance, but also to efficiently provide direct patient care services within their areas of training, competence, and state-specific practice act. Almost 25% of primary care physician practices employ NPs (24). Some research indicates that NPs can provide care for 60% to 90% of patients in primary care (25). However, the knowledge, skills, and scope of training NPs receive are not equivalent to those of a physician.

Frequently cited meta-analyses have shown that NPs and physicians in primary care provide comparable care with respect to assessment and diagnostic accuracy and achieve similar patient outcomes (26,27). However, an analysis of 25 studies comparing nurses to doctors providing similar primary care services cautions:

The findings suggest that appropriately trained nurses can produce as high-quality care as primary care doctors and achieve as good health outcomes for patients. However, this conclusion should be viewed with caution given that only one study was powered to assess equivalence of care, many studies had methodological limitations, and patient follow-up was generally 12 months or less.

While doctor-nurse substitution has the potential to reduce doctors' workload and direct healthcare costs, achieving such reductions depends on the particular context of care. Doctors' workload may remain unchanged either because nurses are deployed to meet previously unmet patient need or because nurses generate demand for care where previously there was none. Savings in cost depend on the magnitude of the salary differential between doctors and nurses, and may be offset by the lower productivity of nurses compared to doctors (28).

Nurse practice acts govern the types of services that NPs can provide and vary among states. NPs typically can conduct medical histories and physicals, diagnose and treat health problems, order laboratory tests and x-rays, prescribe medications, administer immunizations, provide patient education and prevention services, and perform case management and care coordination (29). Their presence can reduce the impact of physician shortages on health care access and may allow physicians to tend to more serious illnesses, such as managing patients with complex chronic illnesses. Care by NPs has been associated with improved patient satisfaction and quality of care related to patient education, communication, and documentation, which typically involve more face-to-face time with each patient (30,31).

NPs are critical to improving access to health care in underserved communities. Most state laws do not include physical proximity requirements for supervising and collaborating physicians, allowing NPs to provide much-needed primary care in rural and other underserved communities. The success of health care delivery will require collaborative teams of physicians and nonphysicians to provide quality care for individuals and populations with both common and complex health care needs using evidence-based guidelines and effective models of collaboration.

All members of a multidisciplinary health care team must be adequately prepared to respond within their scope of practice to the diverse, often complex, needs of patients. Accordingly, educational programs for health care professionals, including advanced practice nurses (APRNs), should have established standards of training. As indicated in Position 1, the education and training of NPs is not the same as or equivalent to that of physicians. The relatively new degree of Doctor of Nursing Practice expands on the Master's level of NPs training and prepares APRNs to practice at the highest clinical level within their scope of practice.

An NP who is a prominent nurse educator and leader explains:

> NPs who are either adult or family nurse practitioners are nationally certified by either the American Nurses Credentialing Center (ANCC) or the American Academy of Nurse Practitioners (AANP). The DNP is an academic degree, not a role. As with other academic degrees, there are no exams that test the depth and breadth of the *entire* degree program. The national certifications (e.g., ANCC and AANP) test the "population focus" (e.g., adult, family) of the NP *role* in which the NP has been prepared. Presently, the majority of students enrolled in DNP programs are post-Master's degree students. Those students are already certified and practicing NPs who do not need any further certification testing to practice. There are DNP programs that anticipate that nurses with a BS in nursing will enroll and graduate with a DNP degree. Those students will also sit for the existing certification exams in order to gain entry to practice (32).

The Essentials of Doctoral Education for Advanced Nursing Practice, developed by the American Association of Colleges of Nursing, includes eight competency areas, seven of which are not related to enhancing clinical skills, but are more focused on systems-based practice and policy. The DNP Essentials are:

I. Scientific Underpinnings for Practice
II. Organizational and Systems Leadership for Quality Improvement and Systems Thinking
III. Clinical Scholarship and Analytical Methods for Evidence-Based Practice
IV. Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
V. Health Care Policy for Advocacy in Health Care
VI. Interprofessional Collaboration for Improving Patient and Population Health Outcomes
VII. Clinical Prevention and Population Health for Improving the Nation's Health
VIII. Advanced Nursing Practice (33)

DNP programs also require completion of a Master's degree program for the RN degree and a minimum of 1,000 postbaccalaureate clinical hours. Training of physicians involves 4 years of premedical college education, 4 years of medical school that includes 2 years of clinical rotations, 3 years or more of clinical residency training with up to 80-hour workweeks, additional fellowship subspecialty training, and continuing medical education. The ACP supports advanced training for NPs but holds strongly that the NP or DNP degree does not prepare NPs to perform in the same capacity as physicians.

ACP believes that patients rely on a health care provider's professional designation as an indication of the level of training, skills, and knowledge of those providing their care. The use of the prefix "Dr." or "Doctor" by NPs who have completed the DNP degree could lead to confusion and misconceptions by patients. Accordingly, the College has recommended that information be available to patients to help them to distinguish among the different health care professionals involved in their care.

Position 2: Collaboration is defined as ongoing interdisciplinary communication regarding the care of individuals and populations of patients in order to promote quality and cost-effective care. Recognizing the importance of coordinated care to improving health outcomes, we offer the following principles on collaboration between physicians and nurse practitioners:

A. Effective interdisciplinary collaboration is critical to ensuring that all patients receive the highest possible quality of care.

B. Members of a health care team should understand their complementary roles in the delivery of care as defined through their respective professional practice acts.

C. Collaboration among physicians and nurse practitioners can occur during both face-to-face encounters and electronically through the use of technology, including telephone, e-mail, telehealth, and electronic health records.

D. Effective collaboration among nurse practitioners and physicians requires appropriate sharing of information and mutual acknowledgment of and respect for each professional's knowledge, skills, and contributions to the provision of care.

E. Payment systems should provide sufficient reimbursement for the coordination of care and collaboration between nurse practitioners and physicians.

Collaboration has been defined as a joint communication and decision-making process with the goal of satisfying the health care needs of a target population. Components of a collaborative practice model include a shared commitment to achieving positive patient outcomes, a mutual understanding of team member's roles, an agreement to practice within an individual's scope of practice, and a mechanism for communication (34).

The Institute of Medicine (IOM) declared that to improve the quality of patient care, enhanced infrastructures are needed to ensure effective and timely communication among clinicians and between patients and clinicians (35). Because state laws allow many NPs to practice in remote sites, health information technology is critical to improving both the quality and coordination of care. Through computer networks and the use of information technology, medical linkages and long-distance learning and consultation opportunities can be established that will enable physicians and nonphysician clinicians to communicate easily concerning patient diagnosis and treatment. Such technology should ensure the availability of clinical information at the point of care for all providers and patients. ACP supports the use of electronic health records (EHRs) as one critical element of the infrastructure needed to facilitate communication between physicians and nonphysician clinicians. The availability of such communications systems will enhance opportunities for primary care services to be delivered through a collaborative team involving physicians, NPs, and PAs.

Enhanced communication systems among clinicians in a team are important, given the increasing complexity of medical care. Just as patients benefit when primary care physicians and subspecialty consultants communicate easily and effectively, so they benefit when NPs, especially those in states allowing independent practice, can communicate easily and effectively with physician consultants. Research has found that independent NPs are practicing within their scope of practice, serving younger patients, serving patients with selected illnesses and injuries, performing basic primary care procedures, and referring patients to primary care physicians and subspecialists when the patient requires care outside the NP's scope of practice (36,37). Accordingly, NPs fill a gap when patients have illnesses that are not very complex. In states where NPs are permitted to practice independently, processes must be implemented to assure that the appropriate medical personnel are involved when needed.

This becomes most important with the expansion of retail health clinics, which are primarily staffed by NPs. The convenience and affordability of retail health clinics appeal to both insured and uninsured individuals. In 2006, the College adopted principles for retail health clinics, which encourage the development of referral systems to physician practices or to other entities appropriate to the patient's symptoms beyond the store-based clinic's scope of practice (38). There should also be linkages to assure that the patient's primary care physician is notified of any treatment or prescriptions and to assure the availability of continuity of care. ACP supports the use of EHRs to facilitate communication among the episodic providers of care at the store-based clinics,

primary care providers, subspecialists, and other members of the collaborative health care team. In addition, independent NPs should establish formal connections with physician practices in the community to provide continuity of care and to encourage the patients they treat to establish a primary care relationship.

Position 3: Licensing and certification exams for nurse practitioners should be developed by the discipline of nursing, based on standardized training involved in graduating from advanced practice nursing programs and scope of practice statutes and regulations. ACP therefore opposes use of Step 3 of the U.S. Medical Licensing Exam and certification by the National Board of Medical Examiners (NBME) for the DNP.

The ACP regards advanced practice nursing as a distinctive and complementary profession. ACP opposes any policies or regulations that have the consequence of replacing or substituting NPs for physicians. The unique training and skill set taught in NP programs merits its own licensing and certification process. Examinations should be developed by the discipline of nursing and not drawn from another discipline's examination or certification mechanism.

Position 4: In the patient-centered medical home (PCMH) model, care for patients is best served by a multidisciplinary team where the clinical team is led by a physician. However, given the call for testing different models of the PCMH, ACP believes that PCMH demonstration projects that include evaluation of physician-led PCMHs could also test the effectiveness of nurse practitioner-led PCMH practices in accord with existing state practice acts and consistent with the following:

- **A. Demonstration projects testing the effectiveness of NP-led PCMH practices should meet the same eligibility requirements as those for physician-led practices.**
- **B. NP-led PCMH practices should be subject to the same recognition standards to participate in the demonstration project as physician-led practices.**
- **C. NP-led PCMH practices should be subject to the same standards of evaluation as physician-led PCMH practices.**
- **D. Patients who are selecting a PCMH as their source of regular care should be informed in advance if it is a physician-led or nurse practitioner-led practice and the credentials of the persons providing care within each practice.**
- **E. All clinicians within the PCMH are operating within existing state practice acts.**
- **F. Payments and evaluation metrics for both physician-led and nurse-practitioner-led PCMH practices must take into account differences in the case mix of patients seen in the practice.**

The patient-centered medical home (PCMH) model is based upon providing patients with comprehensive primary care in a team-based environment. Within the PCMH, a physician leads a team of individuals who collectively take responsibility for the ongoing care of patients. A "team" may consist of different individuals who are members of the PCMH practice or individuals who provide service to complement the PCMH practice through established agree-

ments and relationships. Ideally, each member of a clinical team should practice to the highest level of their license, knowledge, skills, and abilities--and no lower. In addition, health care professionals should not be expected to, nor endeavor to, practice beyond their license, scope of practice, or ability. While the PCMH is a physician-guided model of practice, NPs can play a vital role as key members of the team working collaboratively with physicians and other health care professionals. The many roles NPs play within the PCMH depend on the clinical setting, patient population, clinical competency and experience, and the professional relationship between the NP and the physician(s).

PCMH demonstration projects present a unique opportunity to examine not only best practices for collaboration between health care professionals, but also the performance and effectiveness of NPs as members of the multidisciplinary health care team. Payments and evaluation metrics for both physician- and nurse practitioner-led PCMH practices must account for differences in case mix, including differences in health status, socioeconomic status, cultural background, and other patient factors that may contribute to differences in cost and quality outcomes.

Although at this point the nursing and medical practices remain separate, the distinctions among the types of care being provided by primary care physicians and NPs appear to be fading. There is some evidence to suggest that NP-led practices can provide services within their scope, serve younger patients with selected illnesses and injuries, perform basic primary care procedures, and refer patients to primary care physicians and subspecialists when the patient requires care outside the NP's scope of practice (39,40,41). Nurse-managed health centers (NMHCs) also illustrate a paradigm of nurse-led practice that merits further examination. NMHCs are mostly independent nonprofit organizations or academically based clinics affiliated with schools of nursing. NMHCs provide primary health care, health promotion, and disease prevention services to people in rural and urban areas with limited access to health care and record over 2.5 million annual patient encounters. More than 250 NMHCs operate throughout the U.S. and serve an estimated 250,000 patients (42). The centers are managed by advanced practice nurses, and care is provided by NPs, collaborating physicians, clinical nurse specialists, RNs, health educators, community outreach workers, and health care students. As safety net providers, NMHCs supply cost-effective care that reduces expensive emergency room use and hospitalization among patients (43).

Position 5: ACP advocates for research to identify and disseminate effective models of collaboration, referral, and co-management of patients between and among nurse practitioners and physicians.

Collaboration between NPs and physicians is essential to ensuring that patients have timely access to appropriate health care. To improve the coordination and quality of health care, physicians and NPs must be prepared to work effectively within varying health care systems, teams, and practice models. By nature, multidisciplinary health care teams are a diverse group with a wide variety of educational backgrounds, specializations, and skills. In addition, training, regulations, and culture establish and reinforce professional hierarchies that can impede effective collaboration between providers of care. The future of health care delivery will require multidisciplinary teams of health professionals who are prepared to meet the diverse and complex needs of the population. Accordingly, research is needed on effective models of multidisciplinary teams--especially those in which members have varying levels of autonomy and in which health information technology is used to facilitate collaboration.

Position 6: Opportunities for professional multidisciplinary training and team development should be incorporated into the education and training of all health professionals.

Multidisciplinary teams of physicians, NPs, and other health professionals are vital to improving the coordination and quality of care. Currently, the complexity of rules across disciplines and settings makes it a challenge to form effective multidisciplinary teams. For the most part, there are few opportunities for joint preparation between medical and NP students. According to the IOM, "people should be trained in the kinds of teams in which they will provide care, starting with initial professional training and continuing through graduate training and ongoing professional development" (44). However, the IOM recognizes that "multidisciplinary training is difficult to implement because of professional boundaries, the traditional hierarchical structure of health care, clinical specialization, faculty experience, and educational isolation" (45).

National health care workforce policies should ensure health care providers are adequately trained to work collaboratively within teams. Efforts should focus on providing multidisciplinary training to both future and practicing clinicians. ACP supports policies and funding to *explore the effectiveness of multidisciplinary training, which could include studies of:*

Incorporating joint coursework and clinical experience opportunities into educational curricula for medical and NP students.

Employing faculty from both schools of nursing and schools of medicine to teach NP and medical students.

Offering joint continuing education programs for physicians and NPs through both in-person and distance learning.

Position 7: Workforce policies should ensure adequate supplies of primary care physicians and nurse practitioners to improve access to quality care and to avert anticipated shortages of primary care clinicians for adults. Workforce policies should recognize that training more nurse practitioners does not eliminate the need nor substitute for increasing the numbers of general internists and family physicians trained to provide primary care.

Any workforce policies should recognize the continued and essential need for patients to have access to a personal physician who accepts responsibility for their entire health, working in collaboration with nonphysician clinicians involved in caring for the patient.

NPs and primary care physicians are confronted with similar workforce issues of predicted clinician shortages, increased proportion of clinicians practicing in subspecialties, and decreased enrollment in educational programs. The well-documented nursing shortage, which could reach as high as 500,000 by 2025, translates into fewer RNs to enter advanced training programs and fewer qualified nurse educators to teach the number of the nurses needed to ameliorate the nursing shortage (46). In 2007, the Association of American Colleges of Nursing (AACN) found that U.S. nursing schools turned away 3,048 qualified applicants from Master's programs and 313 qualified applicants from Doctoral programs (47). The primary reason for not accepting all qualified students was a shortage of faculty. Higher compensation in clinical and private-sector settings is luring current and potential nurse educators away from teaching. In addition, as the average age of nursing faculty members continues to

climb, 75% percent of the current faculty population is expected to retire by 2019. The National League for Nursing estimates that 15% of all nursing Master's graduates would have to enter teaching just to maintain current faculty levels. They conclude, "Since this is very unlikely, the gap between unfilled positions and the candidate pool will widen significantly" (48).

Given the increasing role that NPs are playing in the provision of primary care, the scarcity of nurses is particularly concerning due to predicted shortages in the numbers of primary care physicians and limits on resident work hours. Recent studies have shown that the number of primary care physicians is declining at an alarming rate. For example, only 2% of fourth-year medical students plan to practice in general internal medicine, compared with 9% in 1990, according to a September 2008 survey published in the *Journal of the American Medical Association* (49).

The future of primary care will depend on adequate supplies of physicians trained to provide primary care as well as NPs and other nonphysician clinicians. A recent study suggests that, similar to medical students and residents, NPs and PAs choose settings other than primary care. It estimates that fewer than half of NP/PAs are in office-based primary care. Many NPs work in emergency rooms, hospital clinics, intensive care units, and inpatient services. Forty-two percent of patient visits to NP/PAs in office-based practices are in offices of specialists. It concludes, "Limited numbers of NP/PAs, lucrative alternative practice opportunities, and uncertain numbers of future graduates will likely limit their availability in primary care" (50).

A study by the Association of American Medical Colleges found that even with projected growth of 2% per year between 2006 and 2025 in the number of NPs and PAs, an increase of 46%, an additional 150,000 NPs and PAs beyond this level would be required to reduce demand for primary care physicians by 25%. It predicts an overall shortage of 124,400 physicians by 2025, and warns that the demand for primary care physicians will outpace supply faster for primary care than for any other specialty group (51)*.

Conclusion

The future of health care delivery will require multidisciplinary teams of health care professionals that collaborate to provide patient-centered care. The key to high performance in multidisciplinary teams is an understanding of the distinctive roles, skills, and values of all team members. Just as the ACP celebrates the special attributes and capabilities of advanced practice nurses, it recognizes the unique role that a personal physician plays in patient care. Advanced practice nursing should not substitute for nor replace primary care medical practice as provided by general internists, family physicians, and other physicians. Physicians and NPs not only share a commitment to providing high-quality care, but also face similar challenges regarding reimbursement and workforce outlook. Recognizing and building on the common ground between the two professions is vital to improving collaboration to meet the complex health care needs of the population.

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*The U.S. is facing a shortage of over 40,000 primary care physicians for adults, which are principally made up of the specialties of internal medicine and family medicine. Pediatricians, which provide primary care to both children and adolescents, are also an essential part of the primary care physician workforce in the U.S, although the evidence is less clear on whether the U.S. will be facing a shortage of pediatricians. ACP believes strongly that assuring a sufficient supply and mix of the primary care physician specialties that take care of children, adolescents, and adults—internists, family physicians and pediatricians—must be a goal of national workforce policies. Workforce policies should also ensure sufficient supplies of nurses, PAs, and other health professionals that provide primary care in collaboration with primary care physicians.

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